ACC.13
62nd Annual Scientific Session & Expo
TCT@ACC-i2
innovation in intervention

E1344
JACC March 12, 2013
Volume 61, Issue 10

Prevention

ADULT LIFE COURSE BODY MASS INDEX AND AGE AT FIRST DETECTION OF OVERWEIGHT ARE ASSOCIATED WITH FUTURE INCREASES IN LEFT VENTRICULAR MASS INDEX

Poster Contributions
Poster Sessions, Expo North
Saturday, March 09, 2013, 10:00 a.m.-10:45 a.m.

Session Title: Prevention: Metabolic Syndrome
Abstract Category: 24. Prevention: Clinical
Presentation Number: 1102-16

Authors: *Arjun K. Ghosh, Alun Hughes, Nishi Chaturvedi, Darrel Francis, Diana Kuh, John Deanfield, Denis Pellerin, Jamil Mayet, Rebecca Hardy, Medical Research Council Unit for Lifelong Health and Ageing, London, United Kingdom, International Centre for Circulatory Health, Imperial College London, London, United Kingdom*

Background: Elevated body mass index (BMI) is associated with elevated left ventricular mass index (LVMI) in cross-sectional studies. However the consequence of elevated BMI over the adult life course on future LVMI is unknown.

Methods: Participants in the Medical Research Council National Survey of Health and Development (MRC NSHD) 1946 birth cohort (n=1653), the longest running birth cohort study in the UK, underwent investigations including echocardiography and BMI measurement at 60-64y. BMI had previously been measured at 20, 26, 36, 43 and 53y. The relationships between BMI and LVM indexed to both body surface area (LVM-BSA) and height2.7 (LVM-ht2.7) and relative wall thickness (RWT) were evaluated using adjusted regression models. Analyses were also carried out replacing BMI with overweight and then with age at first detection of overweight.

Results: Increased BMI and overweight from 20y onwards were associated with increased LVMI. On including BMI at 60-64y, the associations remained for BMI/overweight measured at 26y and 43y. Increased BMI and overweight from 43y onwards were associated with increased RWT. Earlier age at first detection of overweight was associated with increased LVMI and RWT.

Conclusions: Adult life course BMI is positively associated with LVMI and RWT with earlier age of first overweight associated with greater subsequent LVMI and RWT. This makes early intervention imperative to prevent future increases in LVMI and RWT associated with weight gain and obesity.